Will ChatGPT remodify the education? The future of business education and research

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ABSTRACT

Artificial intelligence (AI) technologies have become widely used recently, upending several industries. One of the most extensively disrupted businesses today, the educational sector, is being transformed by ChatGPT. This study aims to comprehend how students feel about influencing elements and their attitudes toward novel concepts like ChatGPT. We received almost 162 respondents from the students of different business schools in the pilot survey. There are 14 questions in the questionnaire and the scales are based on the ABC model of attitudes on a Likert scale, which measures levels of attachment, propensity for behavior, and level of cognition. Investigations on study habits usually concentrate on the number of writing assignments, characteristics of information searching and selecting behaviors, and capacity for adjusting to new technology. In this research, we studied how ChatGPT may transform business education by altering how business professionals and students interact with and take in knowledge. The future of business education may be greatly changed by ChatGPT. The summary of this study offers a glimpse of how ChatGPT might revolutionize business education while also noting that doing so fully would take careful planning, ethical consideration, and steadfast study.

Keywords: ChatGPT, Business-education, Behavior, Attitude, Self-efficacy.

INTRODUCTION

On 30th November 2022, ChatGPT, a new large language model-based chatbot released by an American artificial intelligence research laboratory- OpenAI, hit the Internet. (Floridi & Chiriatti, 2020), ChatGPT has attracted more than millions of users in just five days after its launch. ChatGPT can generate a more natural and realistic response to users' inputs and it allows users to chat with it about everything. ChatGPT's characteristics of questioning, recognizing ignorance, supporting multi-turn conversations, and contextual understanding attracted great and widespread attention in the academic world. According to Stokel-Walker (2023), ChatGPT can be described as a large language model (LLM) that creates convincing phrases by imitating the linguistic statistical patterns seen in a sizable body of literature gathered from the internet. With its ability to respond to a variety of themes and subjects, ChatGPT could be a helpful tool for chatbots, academia, customer support, and a variety of other applications (Gilson et al., 2023). Consequently, the platform has gained a lot of attention from early adopters (e.g. students and scholars) and has even been termed a disruptive technology in some sectors (Haque et al., 2022), including academia and education.

The introduction of ChatGPT, a generative AI platform created by OpenAI, has generated a lot of buzz in the academic and K-12 communities, as well as in the business world. ChatGPT, which follows the GPT-4 paradigm as previously stated (Vanian, 2022), draws upon a large corpus of internet-sourced language patterns to generate text that is both compelling and well-suited to its context (Stokel-Walker, 2023). Chatbots, customer service, and academic research may all benefit from it because of how well it handles a wide range of topics and concepts (Gilson et al., 2023). The influence of ChatGPT on the quality and quantity of academic research is of particular concern (Stokel-Walker, 2023) and has reverberated across fields, including tourism and hospitality.

However, the benefits of ChatGPT in both classroom instruction and scientific inquiry should not be disregarded (Anders, 2022). It helps level the playing field when it comes to educational resources and the ability to tailor one's education to suit individual needs. ChatGPT's potential to foster critical thinking and increase AI literacy among educators and students is immense when used properly. It's also a great way to get students excited about learning.

Authorship credits on preprints and published papers attest to ChatGPT's impact on the scientific community (Stokel-Walker, 2023). Editors and publishers of academic journals, as well as the academic community at large, continue to dispute whether or not it is proper to include artificial intelligence programs like ChatGPT as authors.

The larger context of AI's effect on the job market and education (AI's influence on society), expands on the impact of AI in education. Academic writing, programming, and the arts are just some of the mundane and creative activities that AI may replace, highlighting the importance of education in equipping the next generation with the necessary skills and competence (Li, Y., Choi; Science, 2022). The development of AI-driven systems such as ChatGPT shows AI's contributions to automation and creativity via its expertise in natural language processing and creative activities. With its groundbreaking artificial intelligence technology, ChatGPT has the potential to revolutionize several industries, including the travel and hotel industries. While potentially beneficial in terms of accessibility and customization, its disruptive character threatens established academic standards. Integrating technology into the academic world, however, has ethical and intellectual ramifications that are still being debated and investigated.

Some researchers believe that ChatGPT will accelerate education transformation as it could be a powerful educational tool under proper use. While some researchers believe that if ChatGPT becomes a strong tool for cheating, abusing ChatGPT will not only have adverse impacts on academic fairness but directly threaten academic ethics. Therefore, facing new challenges of ChatGPT, this paper intends to investigate business students' attitudes and perceptions towards ChatGPT to effectively understand the challenges of ChatGPT to business education with appropriate solutions.

CHATGPT IN REGARDS OF BUSINESS EDUCATION

The practicality of ChatGPT is one of its most alluring features, and it has had a significant impact on the field of business education. Conversational agent powered by artificial intelligence that can mimic interactions with clients, gather market data, and evaluate business trends for use in the classroom. Future business professionals will be better equipped to deal with the complexity of the corporate world after having had this kind of hands-on experience.

I. Content Generation

Content generating function means ChatGPT can automatically generate text. Therefore, ChatGPT can automatically generate teaching-related text content. This not only provides the possibility for teachers to edit teaching plans and materials by using ChatGPT but also indicates students can use this tool to finish large-scale writing tasks.

II. AI Searching and Respondents

Intelligent search and answer functions mean that based on a large database, ChatGPT can greatly simplify the processes of information mining, screening, and integration. ChatGPT can display this information in the form of an intelligent language and generate a logical and completed response according to users' questions. With the expansion of the database and continuous optimization of its learning model, this function is gradually showing its absolute advantages over other search engines or literature databases. Now, many postgraduates have used ChatGPT to organize literature reviews.

III. Learning Assistance

Learning assistance function means this kind of generative artificial intelligence can penetrate culture and education, which makes ChatGPT become an artificially intelligent teacher who knows all disciplines and can answer students' questions all the time. Moreover, this special teacher can also help students obtain and understand new information and knowledge. Due to the restriction of database and corpus, the accuracy of this function still needs to be improved, but ChatGPT's systematic organization of original resources still makes it a powerful tool to assist students in broadening their knowledge and deepening their perception.

In the end, ChatGPT has huge potential to revolutionize the way business is taught. It has the potential to radically alter the delivery and absorption of business ideas thanks to its adaptability, personalization, and global collaboration. To create a business education system that is more accessible, effective, and interesting for all students, educators and institutions will need to carefully navigate the integration of ChatGPT and similar technologies, taking into account ethical concerns while taking advantage of AI's transformative potential.

QUESTIONNAIRE DESIGN AND DATA ANALYSIS

The questionnaire is designed for business undergraduate and postgraduate students. The questionnaire has 14 questions, including inquiries about the basic background information of samples, attitude scales, and study habits investigations. The basic background information includes gender, institution, current education and year of study, major breakdown, academic performance, and self-efficacy for learning. The questionnaire was distributed online to 8 Chinese university students in business majors with 162 valid questionnaires collected. The attitude scales are based on the ABC model of attitudes with 15 Likert 5-point scale questions, including three levels of affection, behavior tendency, and cognition. The study habits investigations mainly focus on the number of writing tasks, features of information searching and selecting behaviors, tendencies, and ability of new technology adaptation.

RESULTS

The opinions and feelings of ChatGpt users are summarized in Table 1. ChatGpt is viewed as a great educational tool by its users, with high percentages stating that it aids in their learning, is fun to watch develop, and can be used in a variety of contexts. Concerns have been raised, however, about the effect it may have on free inquiry and scholastic standards. Users have a positive impression of ChatGpt's interface and its functionality.

Table 1: Students' Perception of ChatGPT (Affection)

Questions	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %	Mean (SD)	Median
ChatGpt is a very helpful helper in my learning process	2.47	5.56	45.06	18.52	3.72	.92
I enjoy witnessing the progress and development of ChatGpt		3.70	50.62	27.16	4.01	.78
I am interested in the application of ChatGpt in different fields	1.23	4.94	51.85	27.16	4.00	.86
As a student, the advent of ChatGpt hindered my spirit of independent exploration (reverse question)	9.88	17.28	28.40	4.94	3.01	1.03
I think ChatGpt's features and application-friendly	1.23	2.47	57.41	16.67	3.86	.76

Source: Author's Calculation

According to the research, a sizable proportion of users (45.06% agree, 18.52% strongly agree) believe ChatGPT is a vital tool in their learning process. The mean score of 3.72 reflects this positive emotion, indicating a generally favorable opinion of ChatGPT's educational aid. The low percentages of strongly disagree (2.47%) and disagree (5.56%) imply that ChatGPT is useful to the majority of users on their learning journey. Furthermore, Students express their delight at seeing ChatGPT progress and development, with a noteworthy 50.62% agreement and 27.16% strong agreement. The average score of 4.01 indicates a high degree of satisfaction. These data support the idea that ChatGPT has enthralled users with its expanding capabilities and contributions.

Interest in the use of ChatGPT in many disciplines is largely favorable, with 51.85% agreeing and 27.16% strongly agreeing. The mean score of 4.00 reflects this passion, demonstrating considerable interest in the potential uses of ChatGPT beyond typical educational environments. ChatGPT is viewed by users as a flexible tool with far-reaching effects.

However, it is important to address the opposite point regarding ChatGPT's influence on the spirit of autonomous discovery. While 28.40% agree and 4.94% strongly agree that ChatGPT impedes autonomous exploration, the majority (27.16% strongly agree and 9.88% agree) disagree. The average score of 3.01 indicates that consumers do not believe ChatGPT stifles their spirit of autonomous discovery. This emphasizes the complex link between AI aid and self-directed learning. Finally, with 57.41% agreement and 16.67% strong agreement, people typically regard ChatGPT's features and application as user-friendly. The mean score of 3.86 demonstrates a favorable assessment of ChatGPT's accessibility and usefulness, which strengthens its value as an educational tool.

The patterns of user behavior are revealed in Table 2. The user's reliance on ChatGpt for educational purposes, such as completing assignments and keeping track of notes, is highlighted. Users talk openly with one another about their time with ChatGpt, and many indicate that they would consider upgrading to the commercial version for more critical projects. In addition, many use ChatGpt to actively seek out information and expand their horizons and expertise.

Table 2: Students ' behaviors related to ChatGPT (Behavior tendency)

Questions	Strongly Disagree %	Strongly Agree %	Mean (SD)	Median
During the learning process, I often use ChatGpt to complete homework or other learning tasks	14.20	85.80	.86	.92
I often communicate with other students about my experience of using ChatGpt	11.73	88.27	.88	.78
If necessary, I will use the paid version of ChatGpt for important learning tasks	30.86	69.14	.69	.86
I actively search for how to use ChatGpt and related information	54.32	45.68	.46	1.03
I use ChatGpt to search for new knowledge and information	44.44	55.56	.56	.76

Source: Author's Calculation

Table 2 depicts a snapshot of ChatGpt user behaviors and patterns. According to the research, a large majority of users frequently use ChatGpt to accomplish homework or other learning assignments, with 85.80% agreeing and a minor fraction (0.86%) disapproving. The mean score of 4.86 indicates that ChatGpt is an important part of users' learning processes, acting as a dependable tool for job completion. Furthermore, people actively communicate about their ChatGpt experiences, with 88.27% agreeing and 11.73% disliking. The mean score of 4.88 shows that users are likely to share their ChatGPT-related experiences and ideas with their colleagues. This cooperative component of user behavior emphasizes the social side of technology adoption.

In terms of the possible use of the commercial edition of ChatGpt for key learning activities, 69.14% agree, while 30.86% disagree. The mean score of 3.69 indicates that consumers are willing to explore the premium version for crucial learning requirements, indicating ChatGpt's perceived worth. Users are also proactive in their search for information on how to utilize Catgpt and associated sites. A significant 54.32% agree, with 45.68% disagreeing. The mean score of 2.46 suggests that users are driven to investigate ChatGpt's features and capabilities, emphasizing their agency in utilizing this medium for learning. Furthermore, 55.56% of users agree and 44.44% disagree that ChatGpt is useful for knowledge and information retrieval. The average score of 2.56 indicates that ChatGpt is a great resource for learning new things and improving one's knowledge base.

Table 3: Attitude and self-efficacy for learning (Cognition)

Questions	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %	Mean (SD)	Median
ChatGpt was able to help me complete a good-quality course essay	11.11	13.58	33.33	6.17	3.72	.92
ChatGpt will effectively shorten my time to search for knowledge and information	3.70	3.70	56.79	12.35	4.01	.78
ChatGpt helps me learn on my own and update my knowledge	5.56	6.17	46.91	9.88	3.99	.86
The knowledge or information provided through ChatGpt is not trustworthy (reverse question)	5.56	11.73	29.01	4.32	3.01	1.03
I think using ChatGpt is against academic norms and ethics (reverse question)	0.09	13.58	21.60	7.41	3.86	.76

Source: Author's Calculation

Table 3 provides useful information on users' cognitive evaluations of ChatGPT. According to the statistics, a sizable proportion of users feel ChatGpt can aid them in creating high-quality course essays, with 33.33% agreeing and 6.17% highly agreeing. In contrast, a tiny proportion of users (11.11% strongly disagree and 13.58% disagree) have reservations regarding ChatGpt's competence in this regard. The mean score of 3.72 suggests that, on average, people feel ChatGpt can help them create great course essays, indicating a good opinion of its skills.

Furthermore, 56.79% of users agree and 12.35% strongly agree that ChatGpt successfully reduces the time they spend searching for knowledge and information. Only a small fraction (3.70% strongly disagree and 3.70% disagree) disagree. The mean score of 4.01 emphasizes ChatGpt's efficiency in information retrieval, emphasizing its significance as a time-saving utility. A sizable majority of users see ChatGpt as a good resource for self-directed learning and knowledge upgrading, with 46.91% agreeing and 9.88% strongly agreeing. While a small fraction (5.56% strongly disagree and 6.17% disagree) disagrees, the mean score of 3.99 highlights ChatGpt's importance in fostering autonomous learning.

However, it is worth mentioning that a sizable proportion of users do not trust the expertise or information offered by ChatGpt, with 29.01% agreeing and 4.32% strongly agreeing. In contrast, 5.56% strongly disagree and 11.73% disagree with this statement. The mean score of 3.01 illustrates people's mixed feelings about ChatGPT's dependability in delivering information. In terms of academic standards and ethics, just a small proportion (0.09% strongly disagree and 13.58% disagree) feel that utilizing ChatGpt violates these values and ethics. This is a worry shared by a larger proportion of people (21.60% agree and 7.41% strongly agree). The mean score of 3.86 indicates that users agree on the possible ethical issues of using ChatGpt in an academic setting.

Overall, users see ChatGpt as a useful educational tool that has benefited their learning, fostered a more collaborative mindset, and increased productivity.

DISCUSSIONS

For most business students, ChatGPT is undoubtedly a new thing. In this survey, more than 60% of students did not hear or learn about ChatGPT for the first time until after 2023. At the same time, limited by information channels or limited direct experience, it is not surprising that students have some incomplete and inaccurate knowledge of ChatGPT. In the survey, we found that students overall were optimistic about ChatGPT. Most students have shown a strong interest in the functions and

applications of ChatGPT, and have begun to conceive and try to use ChatGPT to complete academic tasks - at least half of the students will actively search for the use of ChatGPT and related information; About 1/3 of students already use ChatGPT to complete assignments or other learning tasks and exchange experiences with other students.

However, these behaviors are based on incomplete, inaccurate perceptions of ChatGPT. Many students believe that the function of ChatGPT is not only to effectively shorten the time to retrieve knowledge and information but also to directly help them complete some learning tasks, such as a course paper. This misunderstanding of ChatGPT's function may be a challenge for business courses. If students are not curbed from abusing ChatGPT for assignments or graduation theses, the output of business education will be fundamentally questioned. It's also a caveat that according to our survey, only about 30% of students believe that using ChatGPT to complete learning tasks may violate academic ethics and integrity.

In fact, due to the limitations of ChatGPT's current stage of development, it often gives some false or wrong information. Only 1/3 of students realized that the information provided by ChatGPT was not completely reliable, and 56% of students believed that ChatGPT could help them update their knowledge. As a result, students are likely to be misled by ChatGPT's inaccurate and even biased responses, posing new challenges to teachers' authority in the classroom.

On the other hand, the profound impact of ChatGPT on business education may be even more disruptive. Since ChatGPT has been used in many industries, such as advertising copywriting, interview simulation, product development brainstorming, etc. This also means that in future business education, the application ability of ChatGPT must not be lacking. Not only that, all AI-related knowledge and application capabilities are a topic that cannot be avoided in future business education. Therefore, the emergence of ChatGPT not only puts forward new requirements for the content of future business education but also puts forward higher standards for teachers' technical adaptability. For today's business educators, it is important to design and develop an effective and up-to-date curriculum at this time. These necessary pedagogical reforms are a response to business practice and reflect a reality facing business education – that is, business model innovation and development led by technological innovation are becoming more and more obvious faster than theoretical development and updating in academies. Therefore, even without ChatGpt, business education will eventually be challenged by other technological advances or new forms of business.

CONCLUSION

ChatGpt is also helpful for users in terms of independent study and information refreshment. However, questions are raised about the veracity of the information or expertise offered by ChatGPT. Concerns about the morality of using ChatGPT in the classroom are generally shared by its users. There are, however, concerns regarding the information's veracity and ethical implications. ChatGpt's function in the educational environment, including its potential benefits and limitations, may be better understood by looking at the interplay between user attitudes, behaviors, and cognitive perspectives.

First, the emergence of ChatGPT does pose a strong challenge to the content and practice of business education. Keeping knowledge updated will become the top priority for teachers – teachers' development must be premised on keeping knowledge updated, which may be a positive stimulus.

Second, the evaluation mechanism of business education needs to be upgraded or reconstructed. Perhaps the use of technical means to intervene in the inspection and review of students' work and results will become the norm. Discussing and developing reasonable ethical standards – such as when using ChatGPT in learning progress is not illegal – will become crucial.

Finally, with the addition of more comprehensive databases, corpora, and the development of educational uses, perhaps ChatGPT will become a useful supplement and helper in the educational process in the future.

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